

RA100/500D/1000D

HF Tactical Support Amplifiers

HF TACTICAL
SUPPORT



RA100 100W HF Amplifier

The RA100 is a 100W HF linear RF Amplifier designed for use with exciters operating in the 1.6 to 30 MHz frequency band to form high-power HF systems. The amplifier interfaces seamlessly with Datron's PRC1099A HF transceiver and MT1099A mount and also can be used with any transmitter having an appropriate power output and a compatible DC power and control interface.

The amplifier's combination of functionality, reliability, and affordability make it one of the best-valued high power RF amplifiers on the market today. The RA100's compact design and light weight make it ideal for mobile or base station systems.

It is rugged, shockproof, and waterproof making it ideal for use in harsh operating environments. It's linearity and continuous duty rating ensures high performance for all HF voice and high-speed data applications. It is entirely solid state, broadband, and operates from either +12Vdc or +24Vdc.

The RA100 employs harmonic filters to provide high attenuation of transmitter harmonics and out-of-band signals in receive mode. It includes automatic level control (ALC) to maintain a stable RF output over the entire operating frequency range and over fluctuating temperatures. In addition, the RA100 provides protection against load mismatch and open and short circuit conditions at the antenna port.

The amplifier is suitable for use with Datron's RAT7000B external tuner and whip or long wire antennas, or with systems containing a 50 ohm broadband antenna.

- 1.6 to 30 MHz
- Continuous Duty Operation, Voice/Data
- +12VDC or +24VDC Operation
- Full Antenna VSWR Protection
- Over Temperature/Current Protection
- Over-Drive/Imbalance Protection
- Compact, Light Weight



HF TACTICAL SUPPORT



- 1.6 to 30 MHz
- Continuous Duty Operation, Voice/Data
- Internal AC/DC Power Supply
- Full Antenna VSWR Protection
- FWD/REF RF Power Metering
- Over Temperature/Current Protection
- Over-Drive/Imbalance Protection
- Front Panel Status indicators
- 19" Rack-Mount Package

RA500D / RA1000D 500W HF Amplifier & 1000W HF Amplifier

The RA500D and RA1000D are 500W and 1000W HF linear RF Amplifiers designed for use with exciters operating in the 1.6 to 30 MHz frequency band to form high-power HF systems. The amplifiers interface seamlessly with Datron's RT7000 HF transceiver and also can be used with any transmitter having an appropriate power output and compatible control interface.

The amplifiers' combination of functionality, reliability and affordability makes them one of the best-valued high power RF amplifiers on the market today. Their linearity and continuous duty rating makes them ideal for all HF voice and high-speed data applications.

They are completely self-contained units, integrating RF amplifiers, harmonic filters, protective circuitry, and power supplies in a single chassis. The amplifiers are entirely solid-state, broadband, and housed in an OD green anodized-aluminum rack-mount package suitable for standard 19" racks.

The amplifiers are fully protected against antenna load mismatch and will tolerate open and short circuit conditions at the antenna port without suffering damage. The amplifiers' protective circuitry makes them essentially "bulletproof," as they contain protection against excessive temperature, over-voltage and over-current.

The amplifiers employ harmonic filters to provide high attenuation of transmitter harmonics and automatic level control (ALC) to maintain a stable RF output over the entire operating frequency range and over fluctuating temperatures. Front panel indicators, including forward and reverse RF power meters, are available to display amplifier status at all times.

They are suitable for use with Datron's RAT1000C antenna tuner and narrowband antennas, or 50 ohm broadband antennas.

Table 1: RA100

GENERAL

• RF POWER OUTPUT	100W Average
• FREQUENCY RANGE	1.6 to 30 MHz
• HARMONICS	-50 dBc, typical
• DUTY CYCLE	Continuous service
• RF DRIVE LEVEL	5W, nominal
• INPUT/OUTPUT IMPEDANCE	50 Ohms
• POWER REQUIREMENTS	+12VDC or +24VDC

MECHANICAL

• SIZE	4" x 11.25" x 8.25" (10.16cm x 28.58 cm x 20.96 cm); (H x W x D)
• WEIGHT	14 lbs. (6.8 kg)
• COLOR	OD Green

ENVIRONMENTAL

• TEMPERATURE	-40°C to +60°C operational, -55°C to +85°C storage
• SHOCK, VIBRATION, HUMIDITY	Per MIL-STD-810

CONTROLS AND INDICATORS

• CONTROLS	Amplifier ON/OFF
• CONNECTORS	RF input, RF output, Control, DC input

Table 2: RA500D

GENERAL

• RF POWER OUTPUT	500W, PEP or Average
• FREQUENCY RANGE	1.6 to 30 MHz
• HARMONICS	-50 dBc (2 to 30 MHz)
• NON-HARMONIC PRODUCTS	-70 dBc (2 to 30 MHz)
• INTERMODULATION DISTORTION	-30 dB
• DUTY CYCLE	Continuous service
• RF DRIVE LEVEL	50W, maximum
• INPUT/OUTPUT IMPEDANCE	50 Ohms
• VSWR	≤ 2:1 with power rollback and bypass protection
• POWER REQUIREMENTS	110Vac, less than 20A; or 220Vac, less than 10A

MECHANICAL

• SIZE	8.8" x 19" x 15.3" (22.3cm x 48.3 cm x 38.9 cm); (H x W x D)
• RACK HEIGHT	5U
• WEIGHT	52 lbs. (23.6 kg)
• COOLING	Forced air
• COLOR	OD Green

ENVIRONMENTAL

• TEMPERATURE	-20°C to +50°C operational, -40°C to +70°C storage
• HUMIDITY	95% @ +50°C

CONTROLS AND INDICATORS

• CONTROLS	Amplifier ON/OFF
• METERING	Forward RF power, Reflected RF power
• CONNECTORS	RF input, RF output, Control, Fault, Tuner
• INDICATORS (LED'S)	AC present, DC present, PTT, high VSWR, high DC current, high temperature, fault (bypass mode)



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Table 3: RA1000D

GENERAL

• RF POWER OUTPUT	1000W, PEP or Average
• FREQUENCY RANGE	1.6 to 30 MHz
• HARMONICS	-50 dBc (2 to 30 MHz)
• NON-HARMONIC PRODUCTS	-70 dBc (2 to 30 MHz)
• INTERMODULATION DISTORTION	-30 dB
• DUTY CYCLE	Continuous service
• RF DRIVE LEVEL	30-50W, nominal
• INPUT/OUTPUT IMPEDANCE	50 Ohms
• VSWR	≤ 2:1 with power rollback and bypass protection
• POWER REQUIREMENTS	220Vac, 20A, maximum

MECHANICAL

• SIZE	12.25" x 19" x 15.3" (31.1 cm x 48.3 cm x 38.9 cm); (H x W x D)
• RACK HEIGHT	7U
• WEIGHT	69.4 lbs. (31.5 kg)
• COOLING	Forced air
• COLOR	OD Green

ENVIRONMENTAL

• TEMPERATURE	-20°C to +50°C operational, -40°C to +70°C storage
• HUMIDITY	95% @ +50°C

CONTROLS AND INDICATORS

• CONTROLS	Amplifier ON/OFF
• METERING	Forward RF power, Reflected RF power
• CONNECTORS	RF input, RF output, Control, Fault, Tuner
• INDICATORS (LED'S)	AC present, DC present, PTT, high VSWR, high DC current, high temperature, fault (bypass mode)

* Subject to export regulations
Specifications subject to change without notice - rev 0111
Made in the USA



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